

July 2015 Climate Review for Puerto Rico and the U.S. Virgin Islands

...Based on data received until Aug 5th ...

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Synopsis

A fair and stable weather pattern prevailed across the local islands during July with mostly clear/sunny skies and a few locally induced showers. The best rainfall activity was observed during July 12th and associated with a weak tropical wave. However, rainfall accumulations were [less than 1 inch with isolated areas up to 3 inches](#). An average rainfall total of 0.38 and 0.85 inches was observed across Saint Thomas/Saint John and Saint Croix, respectively. This is only 11% and 26% of their normal rainfall for the month of July. July 2015 is the 5th month in a row with rainfall accumulations below normal across the local islands. Across Puerto Rico, an average rainfall total of 1.85 inches was observed, which is 3.28 inches below normal. In fact, July 2015 ended as the driest July on record across Puerto Rico.

The highest maximum temperature recorded this month was 97°F at Ponce 4E on 7/06, and the lowest minimum temperature was 63°F at Maricao 2 SSW on 7/21. Overall, July can be described as a dry and hot month.

Based on radar and raingauge data retrieved from the Advanced Hydrologic Prediction Service (AHPS) as well as COOP data, short and long term rainfall deficits are observed across the eastern half of Puerto Rico as well as Saint Thomas/Saint John and Saint Croix. In terms of eastern Puerto Rico, the 2015 rainfall deficit combined with 2014 and 2013 rainfall deficits has resulted in moderate to extreme drought conditions. [Year to date rainfall deficits](#) are 20+ inches across the eastern interior of PR with areas in El Yunque above 40 inches. Under El Niño conditions, this dry pattern will continue across the Caribbean. Seasonal forecast continues to suggest below normal rainfall through at least October 2015.





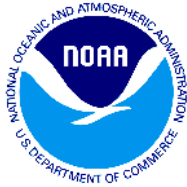
RAINFALL

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Islandwide climate record period: **1940 to 2015**
San Juan Metro Area climate record period: **1898 to 2015** (*Primary climatological site*)
Cyril E. King Airport/St Thomas climate record period: **1953 to 2015** (*Primary climatological site*)
Henry E. Rohlsen Airport/St Croix climate record period: **1951 to 2015** (*Primary climatological site*)
Following WMO criteria: Less than 10% of missing values



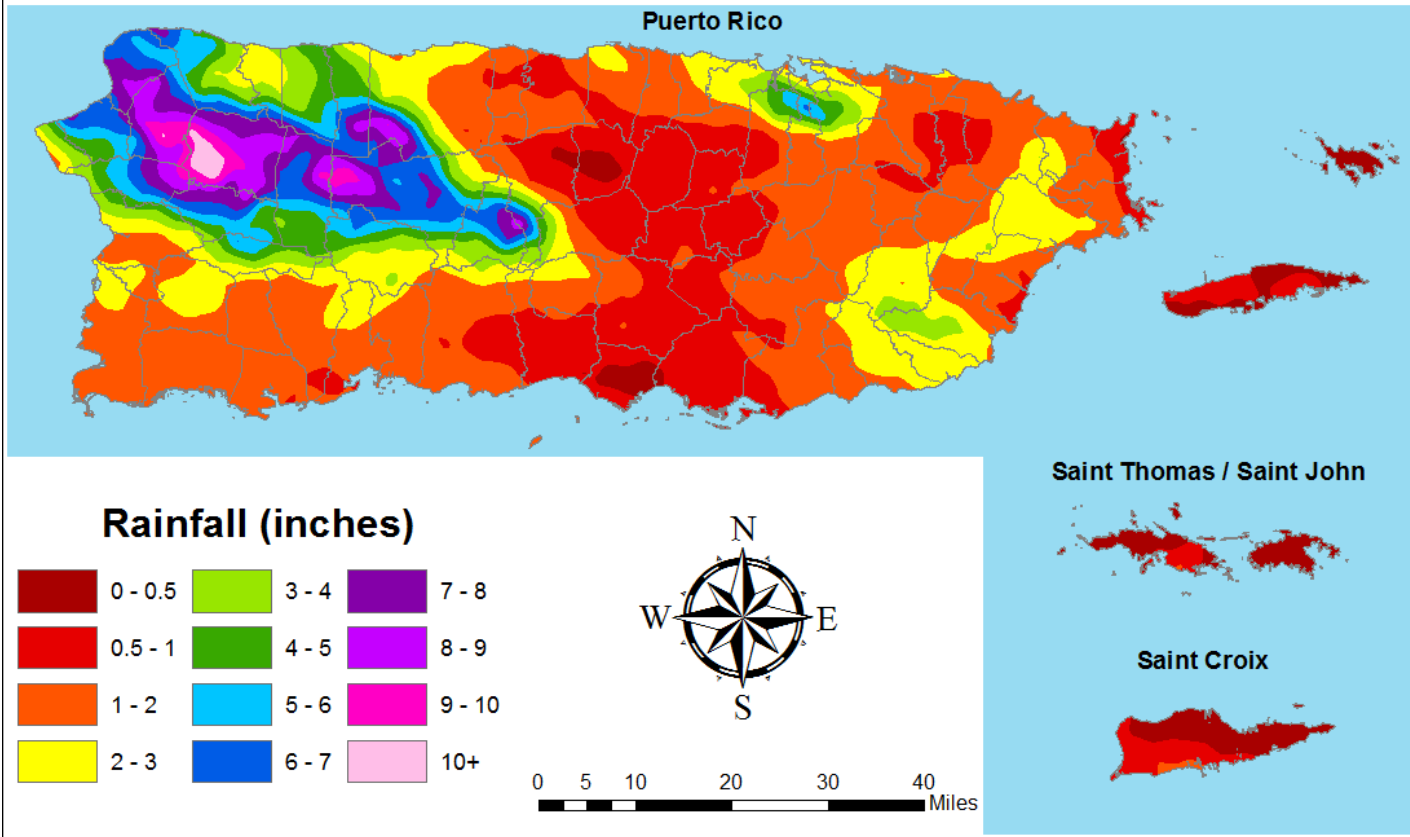
Click on image to enlarge



2015 July Estimated Rainfall National Weather Service WFO San Juan

Data Source: AHPS

Data is Preliminary



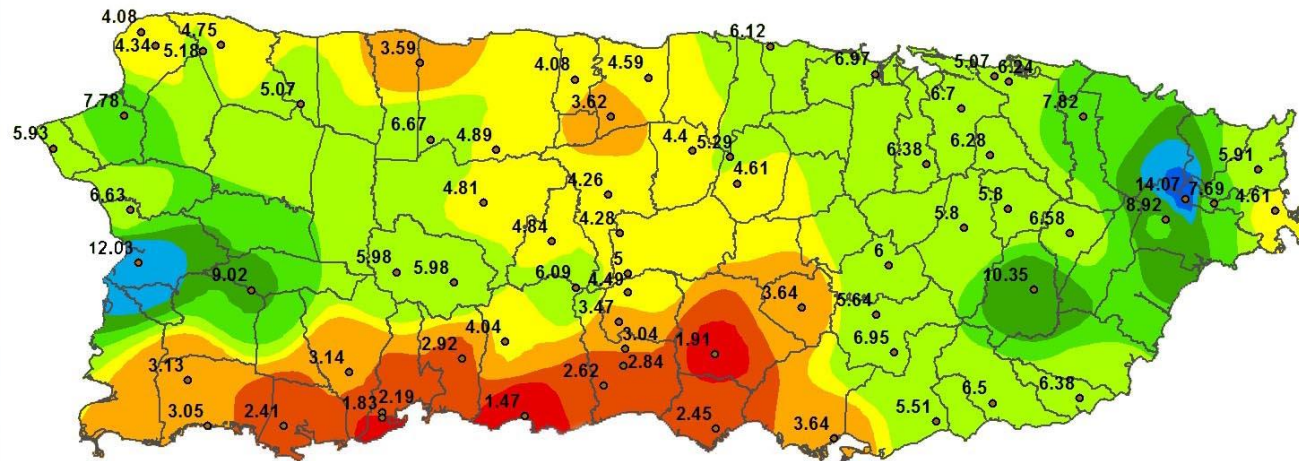
http://www.srh.noaa.gov/sju/?n=pr_usvi_normals



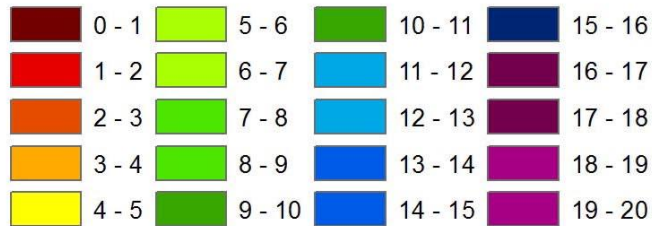
July Normal Rainfall 1981 - 2010



PUERTO RICO



Monthly Rainfall (Inches)



ST. THOMAS / ST. JOHN



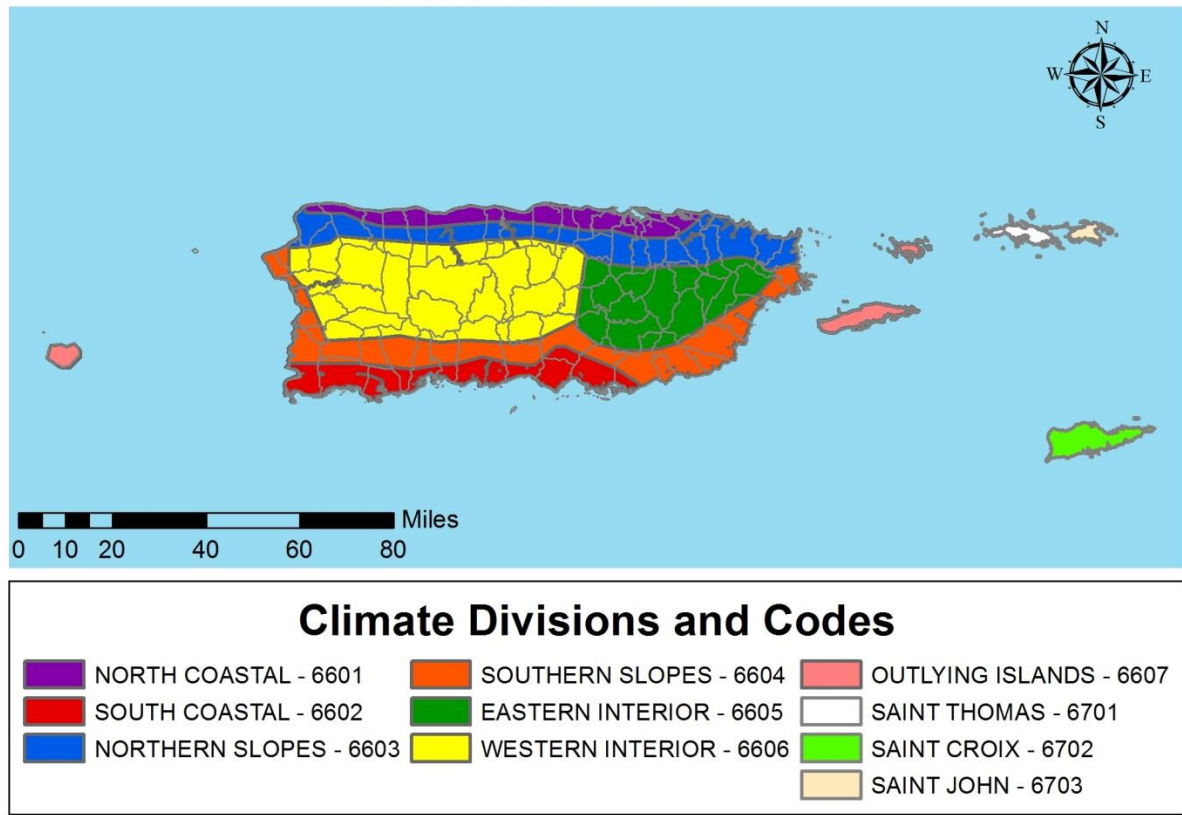
ST. CROIX





2015 Average Rainfall Accumulation per Climate Zones

Puerto Rico and U.S. Virgin Islands Climate Divisions



2015 Average Rainfall Accumulation per Climate Zones

North Coastal	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
OBSERVED	3.98	3.81	2.73	1.82	4.17	2.50	1.42	---	---	---	---	---
NORMAL	4.06	2.96	2.87	5.16	7.24	4.71	5.67	---	---	---	---	---
%PON PER MONTH	98	129	95	35	58	53	25	---	---	---	---	---
ACCUMULATED	3.98	7.79	10.52	12.34	16.51	19.01	20.43	---	---	---	---	---
NORMAL	4.06	7.02	9.89	15.05	22.29	27.00	32.67	---	---	---	---	---
ACCUMULATION	4.06	7.02	9.89	15.05	22.29	27.00	32.67	---	---	---	---	---
% PON ACCUMULATED	98	111	106	82	74	70	63	---	---	---	---	---

South Coastal	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
OBSERVED	1.92	1.85	1.79	1.18	2.45	0.54	1.34	---	---	---	---	---
NORMAL	1.62	1.45	1.78	2.76	4.39	2.66	2.97	---	---	---	---	---
%PON PER MONTH	119	128	101	43	56	20	45	---	---	---	---	---
ACCUMULATED	1.92	3.77	5.56	6.74	9.19	9.73	11.07	---	---	---	---	---
NORMAL	1.62	3.07	4.85	7.61	12.00	14.66	17.63	---	---	---	---	---
ACCUMULATION	1.62	3.07	4.85	7.61	12.00	14.66	17.63	---	---	---	---	---
% PON ACCUMULATED	119	123	115	89	77	66	63	---	---	---	---	---

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2015 Average Rainfall Accumulation per Climate Zones

Northern Slopes	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
OBSERVED	4.32	3.80	1.98	2.83	1.98	2.02	1.99	---	---	---	---	---
NORMAL	4.20	3.03	3.23	5.26	7.47	4.96	5.49	---	---	---	---	---
%PON PER MONTH	103	125	61	54	27	41	36	---	---	---	---	---
ACCUMULATED	4.32	8.12	10.10	12.93	14.91	16.93	18.92	---	---	---	---	---
NORMAL	4.20	7.23	10.46	15.72	23.19	28.15	33.64	---	---	---	---	---
ACCUMULATION	4.20	7.23	10.46	15.72	23.19	28.15	33.64	---	---	---	---	---
% PON ACCUMULATED	103	112	97	82	64	60	56	---	---	---	---	---

Southern Slopes	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
OBSERVED	2.39	2.84	2.00	1.47	2.68	0.99	1.73	---	---	---	---	---
NORMAL	2.00	1.86	2.28	3.91	5.90	3.54	3.83	---	---	---	---	---
%PON PER MONTH	120	153	88	38	45	28	45	---	---	---	---	---
ACCUMULATED	2.39	5.23	7.23	8.70	11.38	12.37	14.10	---	---	---	---	---
NORMAL	2.00	3.86	6.14	10.05	15.95	19.49	23.32	---	---	---	---	---
ACCUMULATION	2.00	3.86	6.14	10.05	15.95	19.49	23.32	---	---	---	---	---
% PON ACCUMULATED	120	135	118	87	71	63	60	---	---	---	---	---

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2015 Average Rainfall Accumulation per Climate Zones

Eastern Interior	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
OBSERVED	4.34	5.83	2.70	1.89	3.11	2.30	2.29	---	---	---	---	---
NORMAL	4.69	3.92	3.90	5.26	8.15	6.39	7.13	---	---	---	---	---
%PON PER MONTH	93	149	69	36	38	36	32	---	---	---	---	---
ACCUMULATED	4.34	10.17	12.87	14.76	17.87	20.17	22.46	---	---	---	---	---
NORMAL												
ACCUMULATION	4.69	8.61	12.51	17.77	25.92	32.31	39.44	---	---	---	---	---
% PON ACCUMULATED	93	118	103	83	69	62	57	---	---	---	---	---

Western Interior	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
OBSERVED	3.60	5.06	3.79	6.65	7.25	4.19	2.05	---	---	---	---	---
NORMAL	3.90	2.75	3.57	6.77	10.09	5.83	5.70	---	---	---	---	---
%PON PER MONTH	92	184	106	98	72	72	36	---	---	---	---	---
ACCUMULATED	3.60	8.66	12.45	19.10	26.35	30.54	32.59	---	---	---	---	---
NORMAL												
ACCUMULATION	3.90	6.65	10.22	16.99	27.08	32.91	38.61	---	---	---	---	---
% PON ACCUMULATED	92	130	122	112	97	93	84	---	---	---	---	---

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2015 Average Rainfall Accumulation per Climate Zones

Mainland PR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
OBSERVED	3.45	4.15	2.71	3.33	4.15	2.38	1.85	---	---	---	---	---
NORMAL	3.41	2.66	2.94	4.85	7.21	4.68	5.13	---	---	---	---	---
%PON PER MONTH	101	156	92	69	58	51	36	---	---	---	---	---
ACCUMULATED	3.45	7.60	10.31	13.64	17.79	20.17	22.02	---	---	---	---	---
NORMAL												
ACCUMULATION	3.41	6.07	9.01	13.86	21.07	25.75	30.88	---	---	---	---	---
% PON ACCUMULATED	101	125	114	98	84	78	71	---	---	---	---	---

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2015 Average Rainfall Accumulation per Climate Zones

Saint Thomas/Saint John	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
OBSERVED	1.46	3.92	1.26	0.30	2.32	1.97	0.38	---	---	---	---	---
NORMAL	2.72	1.71	1.47	2.92	3.90	2.54	3.33	---	---	---	---	---
%PON PER MONTH	54	229	86	10	59	78	11	---	---	---	---	---
ACCUMULATED	1.46	5.38	6.64	6.94	9.26	11.23	11.61	---	---	---	---	---
NORMAL												
ACCUMULATION	2.72	4.43	5.90	8.82	12.72	15.26	18.59	---	---	---	---	---
% PON ACCUMULATED	54	121	113	79	73	74	62	---	---	---	---	---

Saint Croix	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
OBSERVED	2.17	1.66	0.96	1.93	0.89	1.52	0.85	---	---	---	---	---
NORMAL	2.00	1.61	1.53	2.47	3.88	2.60	3.24	---	---	---	---	---
%PON PER MONTH	109	103	63	78	23	58	26	---	---	---	---	---
ACCUMULATED	2.17	3.83	4.79	6.72	7.61	9.13	9.98	---	---	---	---	---
NORMAL												
ACCUMULATION	2.00	3.61	5.14	7.61	11.49	14.09	17.33	---	---	---	---	---
% PON ACCUMULATED	109	106	93	88	66	65	58	---	---	---	---	---

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July in Perspective

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Top 5 **Wettest**

Top 5 **Driest**

Islandwide

Year	Inches
Jul-03	12.38
Jul-60	10.82
Jul-02	10.62
Jul-11	10.00
Jul-58	9.98

Year	Inches
Jul-15	1.85
Jul-70	2.14
Jul-47	2.20
Jul-76	2.65
Jul-00	2.95

**Mean Rainfall:
5.13 inches**

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Islandwide climate record period: 1940 to 2015



July 2015 in Perspective

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Top 5 **Wettest**

Top 5 **Driest**

San Juan Metro Area

Year	Inches
2013	14.17
1950	11.23
2011	11.08
1901	10.98
1952	10.97

Year	Inches
1929	1.10
1974	1.12
1947	1.41
2015	1.61
1971	1.69

Mean Rainfall:
5.07 inches

July 2015 ended as the 4th driest July on record.

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July 2015 in Perspective

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Top 5 **Wettest**

Cyril E. King Airport St Thomas

Year	Inches
1958	7.41
2010	7.40
2005	5.74
1963	4.85
1995	4.84

Top 5 **Driest**

Year	Inches
2007	0.03
2015	0.22
1956	0.24
1994	0.74
2014	0.81

Mean Rainfall:
2.85 inches

July 2015 ended
as the 2nd driest
July on record.

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July 2015 in Perspective

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Top 5 **Wettest**

Henry E. Rohlsen Airport St Croix

Year	Inches
1958	7.62
1964	6.91
2011	6.57
1960	6.17
1952	6.14

Top 5 **Driest**

Year	Inches
1976	0.49
2015	0.77
2014	0.9
2009	0.95
2002	1.09

**Mean Rainfall:
3.04 inches**

**July 2015 ended
as the 2nd driest
July on record.**

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July 2015 in Perspective

Wettest Days

Station	Inches	Date
MARICAO FISH HATCHERY	2.25	7/13/2015
CALERO CAMP	1.94	7/21/2015
ARECIBO OBSY	1.9	7/11/2015
JAJOME ALTO	1.8	7/13/2015
MORA CAMP	1.38	7/21/2015

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July 2015 Highlights for Primary Climatological Data Sites

Wettest Days

San Juan Metro Area

Inches	Date
0.59	7/12/2015
0.53	7/14/2015
0.15	7/1/2015
0.11	7/20/2015
0.09	7/19/2015

Cyril E. King AP/St Thomas

Inches	Date
0.12	7/20/2015
0.03	7/18/2015
0.02	7/24/2015
0.02	7/9/2015
0.01	7/30/2015

Henry E. Rohlsen AP/St. Croix

Inches	Date
0.21	7/12/2015
0.13	7/18/2015
0.11	7/11/2015
0.08	7/16/2015
0.07	7/22/2015

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TEMPERATURE

Islandwide climate record period: 1940 to 2015

San Juan Metro Area climate record period: 1898 to 2015 (Primary climatological site)

Cyril E. King Airport/St Thomas climate record period: 1953 to 2015 (Primary climatological site)

Henry E. Rohlsen Airport/St Croix climate record period: 1951 to 2015 (Primary climatological site)

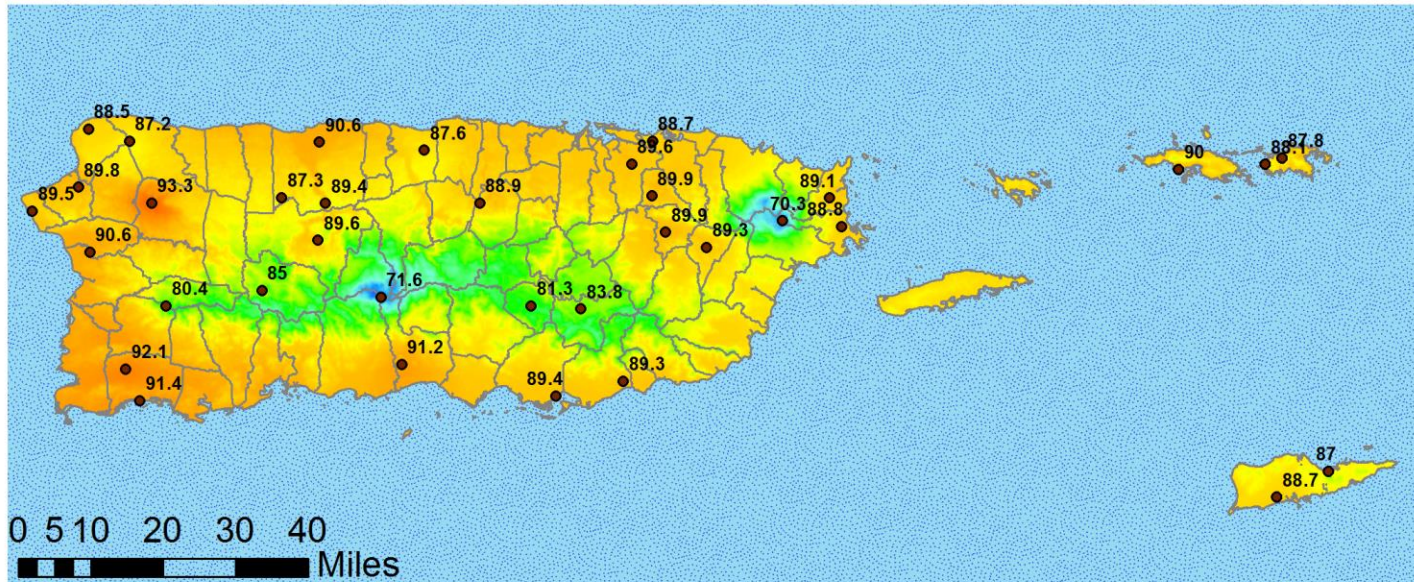
Following WMO criteria: Less than 10% of missing values





July Normal Maximum Temperatures 1981-2010

National Weather Service WFO San Juan



Temperature Range °F



High : 100

80

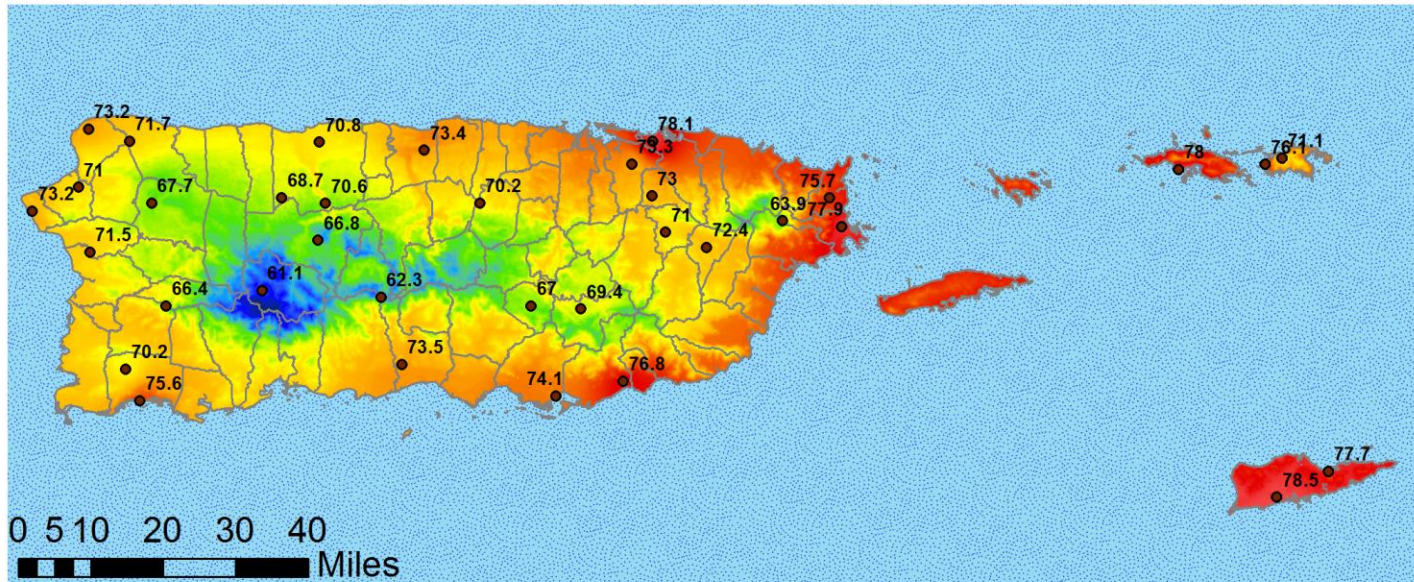
Low : 60





July Normal Minimum Temperatures 1981-2010

National Weather Service WFO San Juan



Temperature Range °F



High : 80

65

Low : 50



July 2015 in Perspective: Mean Avg. Temperature

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Top 5 Warmest

Top 5 Coolest

San Juan Metro Area

Year	°F
1980	85.1
2014	85.0
1981	84.9
2009	84.8
1983	84.2

Year	°F
1921	78.7
1913	78.8
1919	78.9
1949	79.1
1925	79.1

Mean Temperature:
83.4 °F

July 2015 mean
temperature
83.7 °F

July 2015 ended as
the 9th warmest
July on record.



July 2015 in Perspective: Mean Avg. Temperature

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Top 5 **Warmest**

Cyril E. King Airport St Thomas

Year	°F
1979	86.6
1994	86.5
1993	86.2
1992	85.8
2015	85.4

Top 5 **Coollest**

Year	°F
1956	81.8
1955	82.1
1954	82.3
1958	82.4
1963	82.6

Mean Temperature:
84.0 °F

**July 2015 mean
temperature
85.4 °F**

**July 2015 ended as
the 5th warmest
July on record.**



July 2015 in Perspective: Mean Avg. Temperature

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Top 5 **Warmest**

Henry E. Rohlsen Airport St Croix

Year	°F
1989	86.5
1985	85.3
2014	85.0
1972	84.9
2009	84.8

Top 5 **Cooler**

Year	°F
1956	81.2
1952	81.2
1955	81.4
1951	81.5
1958	81.6

Mean Temperature:
83.6 °F

**July 2015 mean
temperature
84.2 °F**

**July 2015 ended as
the 10th warmest
July on record.**



July 2015 Highlights

Highest **Maximum** Temps

Station	Value (°F)	Date
PONCE 4 E	97	7/6/2015
TOA BAJA LEVITOWN	97	7/27/2015
LAJAS SUBSTATION	96	7/30/2015
JUNCOS 1 SE	95	7/6/2015
WFO SAN JUAN	95	7/23/2015

Lowest **Minimum** Temps

Station	Value (°F)	Date
MARICAO 2 SSW	63	7/21/2015
PONCE 4 E	64	7/20/2015
AIBONITO	65	7/12/2015
LAJAS SUBSTATION	67	7/10/2015
ARECIBO OBSY	69	7/7/2015



2015 Highlights for Primary Climatological Data Sites

Summer

	Jun	Jul	Aug	Season Data until 7/31	YTD Data until 7/31
San Juan	17 th driest and 8 th warmest	4 th driest and 9 th warmest	---	Driest and 8 th warmest	5 th driest and 5 th warmest
Saint Thomas	13 th driest and 13 th warmest	2 nd driest, 8 th driest month, 5 th warmest, the month of July with the most 80 degree nights, the 2 nd month on record with the most 80 degree nights and 3 rd longest streak -Tmin above 80 (ending 08/01).	---	Driest and 3 rd warmest	5 th wettest and 6 th warmest
Saint Croix	7 th driest and 8 th warmest	2 nd driest and 10 th warmest	---	Driest and 6 th warmest	Driest and 5 th warmest



2015 Highlights for Primary Climatological Data Sites

Spring

	Mar	Apr	May	Season	YTD Data until 5/31
San Juan	---	4 th warmest	15 th driest and 5 th warmest	5 th driest and 6 th warmest	4 th warmest
Saint Thomas	---	8 th driest	9 th wettest and 10 th warmest	14 th warmest	wettest
Saint Croix	10 th driest	7 th driest and 7 th warmest	9 th warmest and 12 th driest	2 nd driest and 7 th warmest	5 th warmest and 2 nd driest

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2015 Highlights for Primary Climatological Data Sites

Winter

	Dec (2014)	Jan	Feb	Season
San Juan	---	3 rd warmest	6 th warmest	5 th warmest
Saint Thomas	---	---	wettest February and 6 th wettest month	wettest
Saint Croix	8 th wettest	14 th driest	6 th warmest	---

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LOOKING AHEAD TOWARD AUGUST



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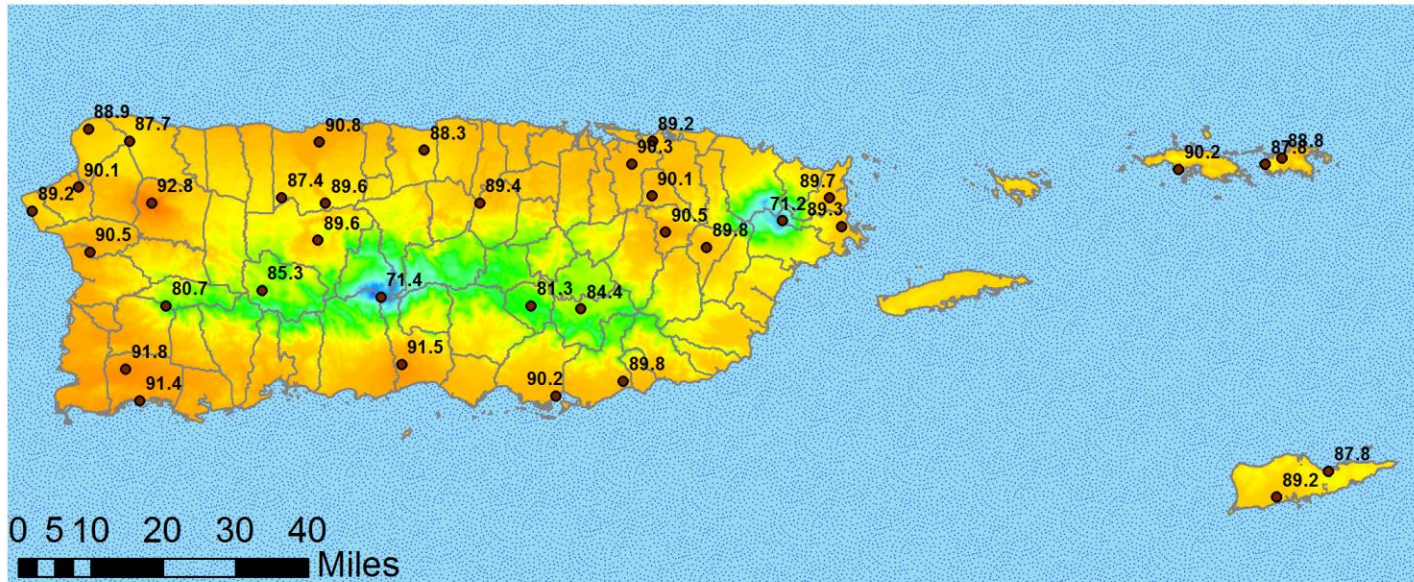
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August Normal Maximum Temperatures 1981-2010

National Weather Service WFO San Juan



Temperature Range °F



High : 100

80

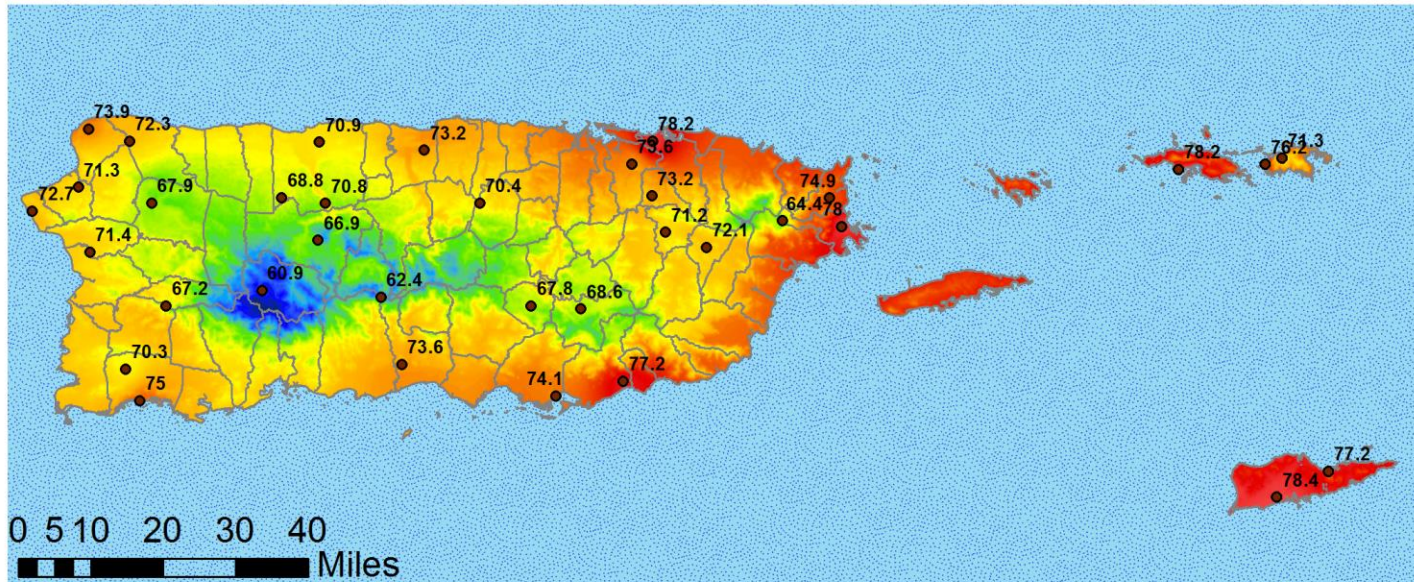
Low : 60





August Normal Minimum Temperatures 1981-2010

National Weather Service WFO San Juan



Temperature Range °F



High : 80

65

Low : 50

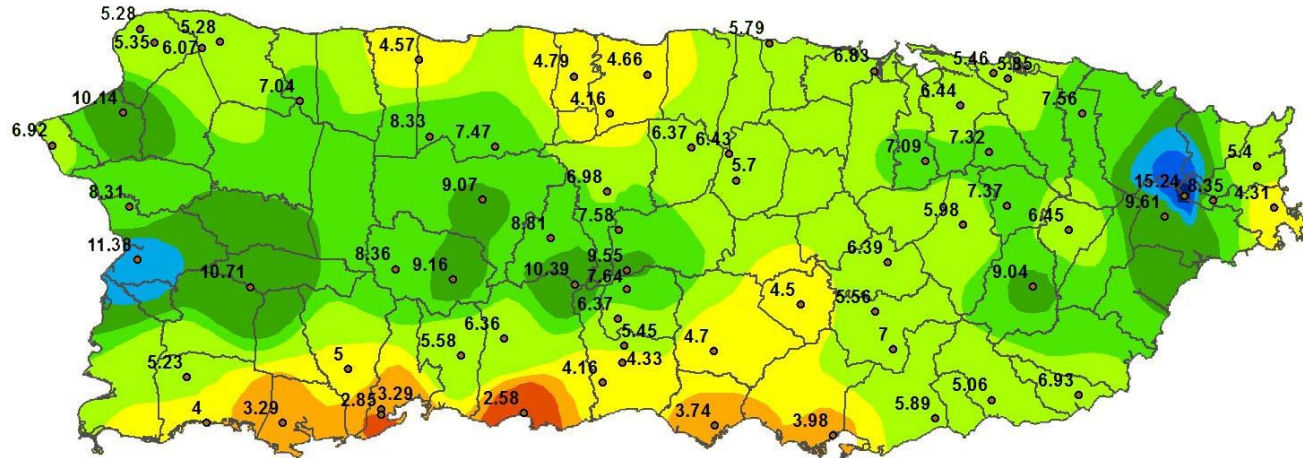




August Normal Rainfall 1981 - 2010



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Monthly Rainfall (Inches)



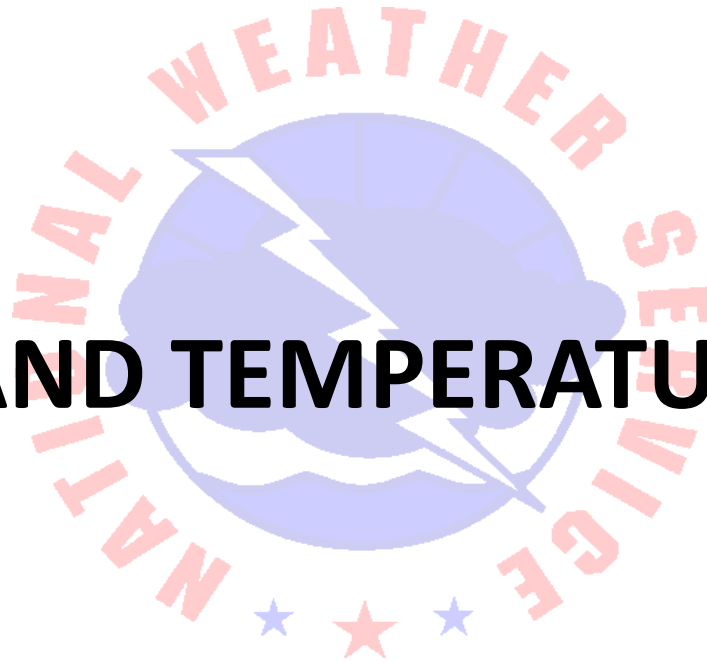
ST. THOMAS / ST. JOHN



ST. CROIX



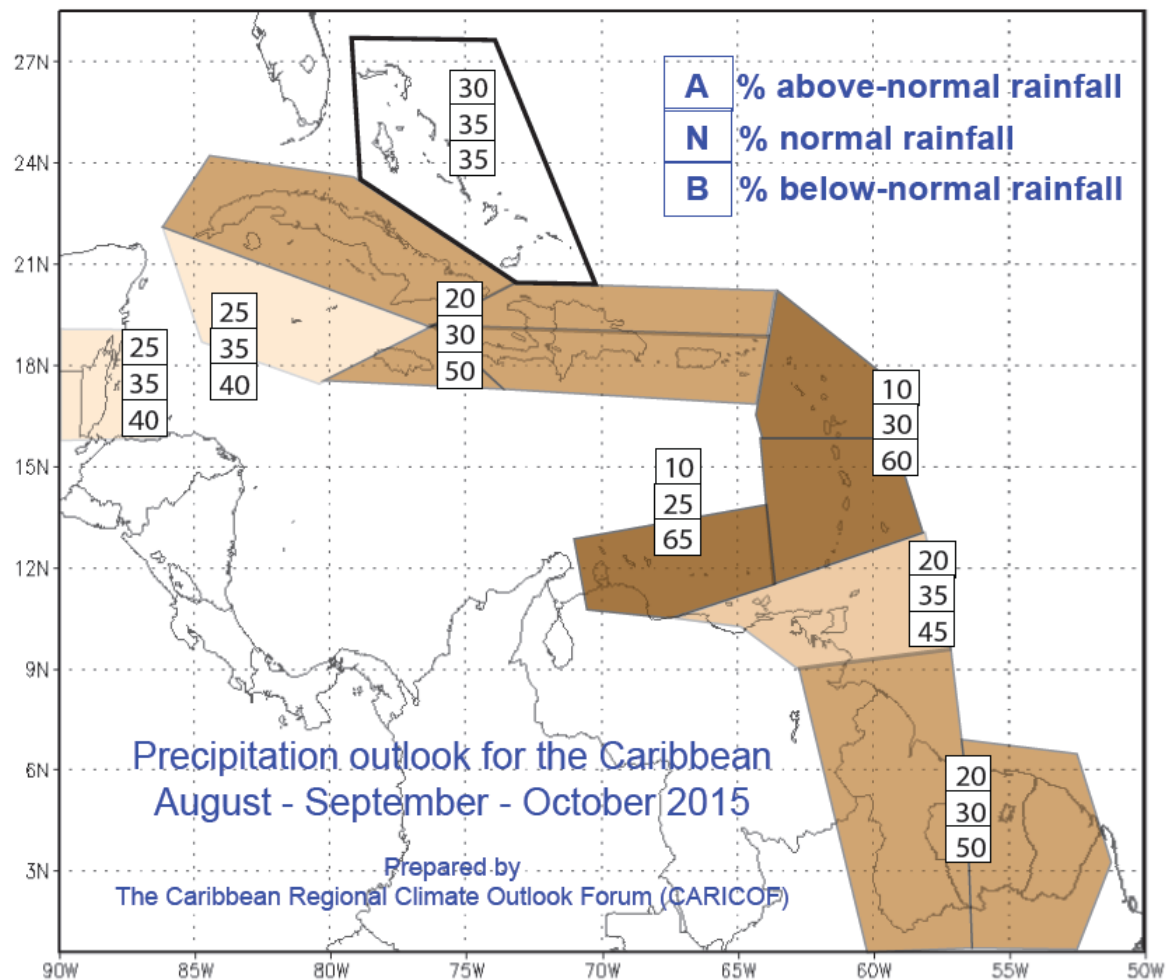
RAINFALL AND TEMPERATURE OUTLOOK



WFO

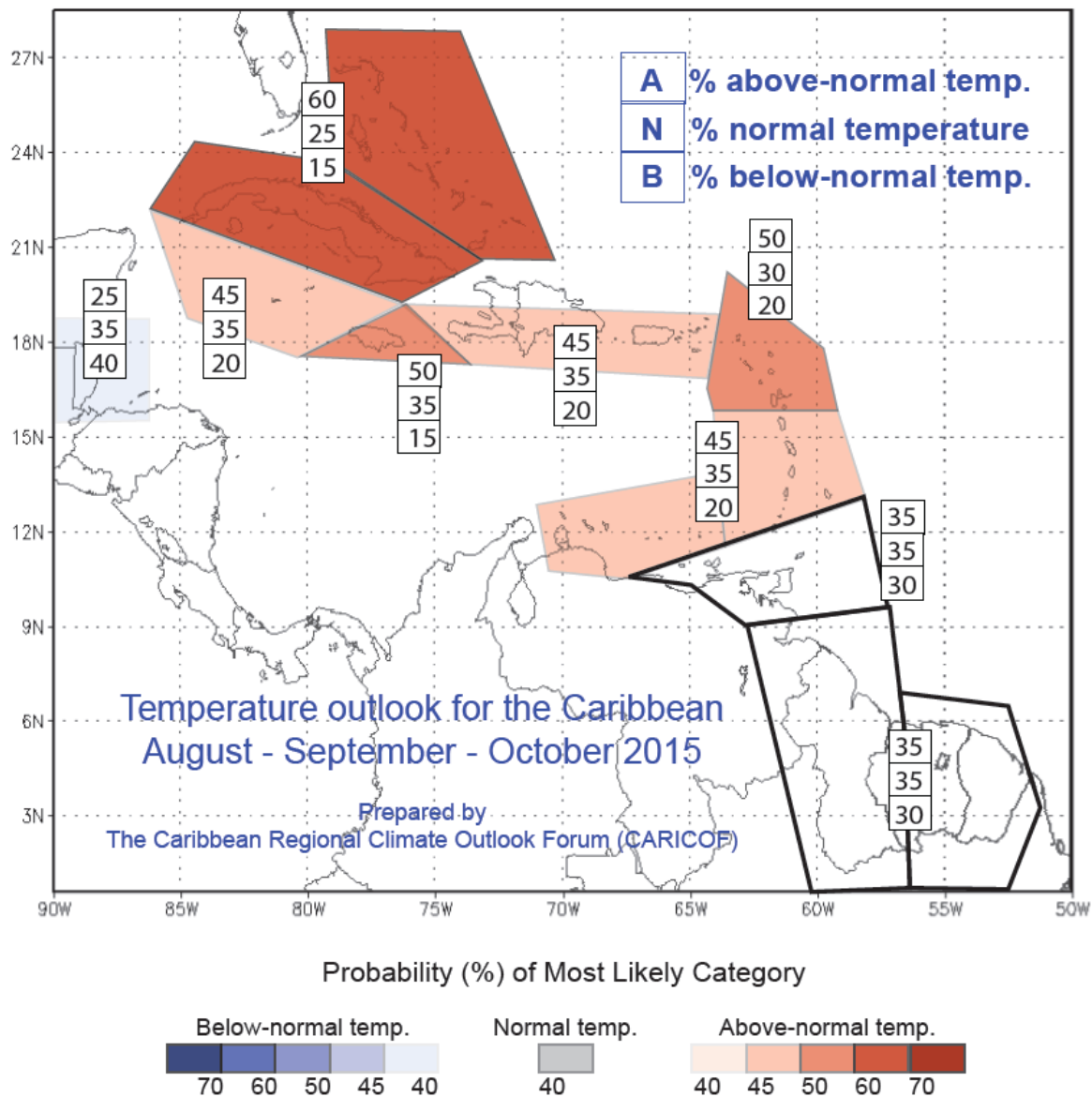
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<http://www.cimh.edu.bb/?p=precipoutlook>





<http://www.cimh.edu.bb/?p=precipoutlook>

